

Notice of Allowability

Application No.

10/052,465

Examiner

Tom V. Sheng

Applicant(s)

YOKOYAMA ET AL.

Art Unit

2677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 5/11/2005.
2. ☒ The allowed claim(s) is/are 1-5, 10 and 11.
3. ☒ The drawings filed on 23 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

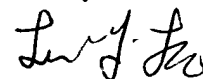
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Lun-Yi Lao
Primary Examiner



Allowable Subject Matter

1. Claims 1-5, 10 and 11 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The claimed invention is directed to a projection type image display device that includes a color synthesizing element comprising a dichroic gradient film and a signal processing circuit, for correcting brightness irregularity / color unevenness.

Independent claim 1 identifies the uniquely distinct and novel features, "a color synthesizing optical element, comprising a dichroic film including a gradient film in which its thickness varies in a substantially horizontal direction" and "a signal processing circuit which corrects the image signal such that brightness irregularity in a substantially vertical direction of an image projected by the projection optical system is reduced or cancelled". Independent claim 5 identifies the uniquely distinct and novel features, "a color synthesizing optical element comprising a dichroic film including a gradient film in which its thickness varies in the first direction" and "a signal processing circuit which corrects the image signal such that brightness irregularity in the second direction of the image is reduced or cancelled". Independent claim 10 identifies the uniquely distinct and novel features, "a color synthesizing optical element, comprising a dichroic film including a gradient film in which its refractive index varies in a substantially horizontal direction" and "a signal processing circuit which corrects the image signal such that brightness irregularity in a substantially vertical direction of an image projected by the projection optical system is reduced or cancelled". Independent claim 11 identifies the uniquely distinct and novel features, "a color synthesizing optical element comprising a

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dichroic film including a gradient film in which its refractive index varies in the first direction" and "a signal processing circuit which corrects the image signal such that brightness irregularity in the second direction of the image is reduced or cancelled".

The Admitted Prior Art teaches the use of a dichroic gradient membrane with one of its thickness or refractive index varies in a direction, to correct color unevenness / brightness irregularity in that direction. However, Admitted Prior Art fails to teach or render obvious the use of claimed signal processing circuit with the dichroic gradient film and that corrects in a different direction.

Muraji et al. (US 5,260,797) teaches a projection type image display apparatus. In particular, he teaches correcting for peripheral dimming characteristics of the projection lenses by means of a LUT for red video signal and a LUT for blue video signal. Muraji further teaches a video signal correction circuit that provides signal voltage corrections based on the LUTs for the red and blue video signals, resulting in a projected image free from unevenness of color, and which reads on claimed signal processing circuit. However, Muraji fails to teach or render obvious the use of claimed dichroic gradient film with the signal processing circuit and that corrects in a different direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
August 10, 2005

Lun-Yi Lao
Primary Examiner

